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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,900	11/28/2001	Steven P. Downing	10006447-1	1554

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

NGUYEN, HOAI AN D

ART UNIT PAPER NUMBER

2858

DATE MAILED: 10/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,900

Applicant(s)

DOWNING, STEVEN P.

Examiner

Hoai-An D. Nguyen

Art Unit

2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-17, 21 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-17, 21 and 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Response C, filed on August 9, 2004, with respect to the rejection(s) of claim(s) 9 and 17 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Yoshizawa and Jackson et al.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 9-17, 21 and 24-26 rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshizawa in view of Jackson et al.

Yoshizawa teaches an image forming apparatus comprising:

- A print medium drive mechanism (FIG. 8, feed roller 27, conveying roller 28, and lower conveying roller 902) configured to advance the print medium through the print zone (FIG. 8, transfer area by registration rollers 26 and second transfer roller 9) (Column 10, lines 34-45), with regard to claims 9 and 17.
- A pinch roller mechanism (FIG. 8, upper conveying roller 901) biased against the print medium drive mechanism and configured to deflect away from the print

medium drive mechanism as the print medium passes between the pinch roller mechanism and print medium drive mechanism (Column 10, lines 46-60), with regard to claims 9 and 17.

- A proximity sensor (FIG. 8 and FIG. 9, displacement sensor 903) configured to measure the extent of deflection of the pinch roller mechanism (Column 10, lines 46-60), with regard to claims 9 and 17.
- A processing device (FIG. 9, CPU) coupled to the proximity sensor and configured to determine a thickness of the print medium based on the measured extent of deflection of the pinch roller mechanism (Column 10, lines 34-45, and from column 5, line 66 to column 6, line 32) (From column 5, line 66 to column 6, line 32), with regard to claim 10.
- The proximity sensor is further configured to output a signal indicative of the extent of deflection of the pinch roller mechanism and the processing device is further configured to receive the signal from the proximity sensor and determine the print medium thickness based on this signal (Column 11, lines 1-10), with regard to claim 11.
- The processing device is further configured to enable initial deposition of printing composition on the print medium by the printing device after receiving the signal from the proximity sensor (FIG. 6, steps 706-711, and column 10, lines 34-45), with regard to claims 12 and 21.
- The apparatus of claim 9 is in a printing device (FIG.1, image forming apparatus) (Column 2, lines 63-65), with regard to claim 13.

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- The print medium drive mechanism includes a drive roller (FIG. 1, registration rollers 26 and conveying roller 28, and column 4, lines 1-19), with regard to claim 14.
- The proximity sensor is positioned adjacent the shim (FIG. 1) (Column 5, lines 51-57), with regard to claim 15.
- The proximity sensor is integral with the shim (FIG. 1) (Column 5, lines 51-57), with regard to claim 16.

As discussed above, Yoshizawa discloses a pinch roller mechanism (FIG. 8, upper conveying roller 901) instead of a shim biased against the print medium drive mechanism (FIG. 8, feed roller 27, conveying roller 28, and lower conveying roller 902) and configured to deflect away from the print medium drive mechanism as the print medium passes between the pinch roller mechanism and print medium drive mechanism (Column 10, lines 46-60), but he does not specifically teach a shim biased against the print medium drive mechanism.

However, Jackson et al. teach a paper property sensing system comprising:

- A shim (FIGS. 2A-2G, member 112) biased against its associated base and configured to deflect away from its associated base as the print medium passes between the shim and its associated base (Column 4, lines 49-55, and from column 4, line 66 to column 5, line 20), with regard to claims 9 and 17.
- A proximity sensor (FIG. 1, paper property sensors 110) configured to measure the extent of deflection of shim (From column 4, line 35 to column 5, line 57), with regard to claims 9 and 17.

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- A processing device (FIG. 1, controller 38) coupled to the proximity sensor and configured to determine a thickness of the print medium based on the measured extent of deflection of the shim (Column 5, lines 41-57), with regard to claim 10.
- The proximity sensor is further configured to output a signal indicative of the extent of deflection of the pinch roller mechanism and the processing device is further configured to receive the signal from the proximity sensor and determine the print medium thickness based on this signal (Column 5, lines 21-57), with regard to claims 11 and 24.
- The processing device is further configured to enable initial deposition of printing composition on the print medium by the printing device after receiving the signal from the proximity sensor (From column 3, line 66 to column 4, line 34), with regard to claims 12 and 21.
- The apparatus of claim 9 (FIG. 1, paper property sensor system 100) is in a printing device (FIG. 1, reproductive machine 9) (From column 3, line 12 to column 4, line 34), with regard to claim 13.
- The print medium drive mechanism includes a drive roller (FIG. 1, rollers 42 and 44, rollers at nips 39 and 41) (From column 3, line 30 to column 4, line 34), with regard to claim 14.
- The proximity sensor is positioned adjacent the shim (FIGS. 2A-2G, member 112 and paper property sensors 110), with regard to claim 15.

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- The proximity sensor is integral with the shim thereby to move with the shim (FIGS. 2A-2G) (From column 4, line 49 to column 5, line 40), with regard to claim 16.
- The shim is between the proximity sensor and the print medium that is advanced through the printzone (FIGS. 2A-2G), with regard to claim 25.
- The shim is bent to have a natural bias against the print medium drive mechanism (FIGS. 2A-2G) (From column 4, line 49 to column 5, line 40), with regard to claim 26.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the image forming apparatus of Yoshizawa to incorporate the teaching of using a shim in place of the upper conveying roller 901 biased against its associated base, the lower conveying roller 902. Such an arrangement is beneficial for detecting the thickness of the transfer material before conveyed to the transfer area and during the printing operation.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant's attention is invited to the followings whose inventions disclose similar devices.

- Patrick et al. (US 5,564,847) teach a media handling in an ink-jet printer having guide ribs.

- Castelli et al. (US 6,736,561) teach an apparatus and method for the prevention of trailing edge deletion in image forming systems.

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoai-An D. Nguyen whose telephone number is 571-272-2170. The examiner can normally be reached on M-F (8:00 - 5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on 571-272-2233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HADN

Hoai-An D. Nguyen
Examiner
Art Unit 2858
HADN



N. Le
Supervisory Patent Examiner
Technology Center 2800